



CITY OF NEWTON, MASSACHUSETTS

Bicycle Advisory Committee

Bicycle Network Plan

A working document for the Newton Bicycle Advisory Committee
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A Bicycle Network for All

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For environmental, health, and quality-of-life reasons, the City of Newton aims to increase the number of bicycle trips in and through the city. Already an official Green Community, Newton is committed to sustainability in every sector. Transportation represents a third of our carbon emissions, and substituting bicycle trips for car trips will help lower this part of our footprint. A large proportion of trips -- for errands and such -- are less than two miles, easily accomplished by bicycle for most people.

Communities similar to Newton, here and abroad, have a much higher rate of bicycle use, even in places with more inhospitable weather. We can do better.

To increase the number of bicycle trips, our streets must be made safer for and more attractive to bicyclists, and off-road opportunities to bicycle should be expanded. The goal is to create a coherent network of bicycle routes that accommodate the entire spectrum of bicyclists -- beginner to advanced -- for a variety of trip types -- commuting, doing errands, getting exercise, having fun.

We already see a significant number of bicyclists using our roads for errands and transportation. Newton's Comprehensive Plan and Transportation Advisory Committee reports both recommend expanding bicycle accommodations, because many people are reluctant to bicycle when they feel the streets are unsafe. Addressing that issue should help reduce automobile trips and the resultant pollution and traffic congestion. More cycling should also create vibrant village centers that are safer for pedestrians and motorists, reduce the demand for parking and improve access to public transit.

The Map of Desired Bicycling Routes included with this Plan shows where we aspire to create safe routes as part of the complete network linking all villages, transportation nodes, schools, public buildings, parks and business districts.

Objectives

To provide a planning framework for the creation of a safe and coherent bicycle network in Newton and connect to a regional network of bicycle accommodations, this Plan will:

- Classify roads in terms of their expected contribution to the bicycle network
- Define the accommodations expected on each class of road
- Prioritize roads to focus our efforts

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Our main objectives are:

1. To make bicycling in Newton much safer by ensuring that bicycling infrastructure will be built using the best possible design recommendations.
2. To increase bicycle routes in Newton by creating a complete network of safe, low-stress routes by (date under discussion).
3. To create first-class bicycle accommodations on critical north-south and east-west corridors connecting nodal points

While state law allows cyclists to travel in regular vehicle lanes, except on expressways and limited-access highways, designating some streets as bicycle routes helps us to focus on making them safer and more comfortable for all users. On low-speed residential streets, bicycles can safely share the road with motorists. Traffic calming measures and infrastructural changes can make streets with moderate amounts of traffic safer and more comfortable for bicyclists.

On busier streets and main roads, bicycle lanes or cycle tracks are needed to give bicyclists a clear path that encourages riding with the flow of traffic and helps motorists when turning or opening doors to be more aware of bicycles. It is preferable not to cycle on sidewalks, although that is allowed throughout the city except in business districts.

Opportunities

There are two types of opportunities for improvements to the bicycle network:

- Targeted projects to provide accommodations on high-priority routes, including re-painting lines (“restriping”) along a section of road, or newly designating and painting bike lanes along a length of road that has not been painted before.
- Accommodations provided according to established guidelines as part of the design work on projects undertaken for other purposes -- repaving and other regular maintenance, redesign attendant to development projects, etc.

At the conclusion of each construction season City staff will submit a memorandum to the Bicycle Advisory Committee providing an update on its current progress and its Chapter 90 expenditures. This memorandum will specify all bicycle facilities that were implemented that year and their cost, and also include a list of facilities planned for the following year with projected costs, and a list of all other bicycle projects planned for the next two to five years.

Ongoing maintenance of these facilities will be paramount. Every bicycle lane mile means one to two miles of line painting and bicycle logos that must be maintained and repainted, as necessary. Increased attention to snow plowing, street cleaning, pothole filling and storm drain maintenance will be needed, as even a small amount of debris may significantly reduce the usefulness of the facility. Finally, road construction projects that take place near the edge of the travel lane or within the shoulder must ensure the road surface is safe for bicycle travel.

Classifications

Recognizing the current state of the bicycle network and for the sake of simplicity, this plan provides the following roadway categories as they relate to the bicycle network plan:

- I. Corridors north-south and east-west
- II. Routes that connect to points of interest
- III. Low-traffic routes
- IV. Recreational routes

Accommodations

Because Newton has some narrow roads and complex on-street parking regulations, there is no single bicycle accommodation type that can be applied uniformly to a specific category of roadway, or even the full length of one road. Furthermore, what is desired and possible will change over time as the effort to extend the bicycle network leads to increased ridership and greater demand for bicycle accommodations. Here are some guiding principles.

I. Corridor accommodations

Newton has a limited number of north-south and east-west corridors that serve as routes for bicyclists—and motorists—to destinations within and beyond the city. With few exceptions, bicycles will be fully accommodated along the length of those corridors. Fully accommodated means:

- Dedicated bicycle lanes where there is sufficient right-of-way
- Sharrows where there is not sufficient right-of-way for bicycle lanes
- Outside of commercial districts, bicycle safety will take priority over on-street parking
- Within commercial districts, bicycle accommodations will be provided, using bicycle- and pedestrian-friendly designs, along with on-street parking
- Along the entire length of the corridor, bicyclists and motorists will know, by pavement markings and other mechanisms, what accommodations are provided

“Fully accommodated” will reflect, at the time specific designs are drawn and implemented, a good-faith effort to provide first-class accommodations on the road under consideration. See the Appendix for the network of arterial corridors requiring full bicycle accommodations.

The full network consists of 94.23 miles. See Appendix “Bicycle Network Plan Mileage” for details.

II. Accommodations to points of interest

Many of Newton’s principal destinations, including village centers, parks, transit stops and schools, are along the north-south and east-west corridors. Some points of interest that invite bicycle use, however, are off the corridors, including Lasell and Mt. Ida colleges, Newton South High School, Oak Hill and Brown Middle Schools, some Green Line transit stops, Auburndale, Albemarle and Nahanton parks and many recreational fields. This Plan will attempt to accommodate bicyclists along the connections from the corridors to the points of interest.

III. Low-Traffic Routes

While most travel requires some access to main corridors (Part I, above), cyclists prefer low-traffic alternatives. Quiet side roads need little or no changes to make them safe and welcoming to cyclists. However, they are often indirect, and can be difficult to find. As the principal corridors become safer, we will need to have a uniform system of bicycle wayfinding signs to mark these routes

IV. Recreational routes

This Plan includes accommodations for recreational cycling. Recreational routes are routes that can be enjoyed by families and others biking at slow speeds, with the expectation of no or very little traffic. These routes can be on-road on low-traffic streets or off-road. Newton has good opportunities for recreational bicycling:

- Commonwealth Avenue carriageway
- Quinobequin Road
- Needham Street rail trail (proposed)
- Lower Falls rail trail (proposed)
- Lake Avenue
- Hammond Pond Parkway
- Charles River Path, including the section through Lyons Field (Auburndale)
- Cochituate and Sudbury aqueducts

Priorities

The top priorities for this Plan are:

- Full accommodations along:
 - Commonwealth Avenue (east/west)
 - Beacon Street (east/west)
 - Washington or Watertown Streets (east/west)
 - Walnut Street (north/south)
 - Centre/Winchester/Needham Streets (north/south)
 - Parker Street
- Full accommodations to:
 - Newton South High School
 - Oak Hill and Brown Middle Schools
 - Albemarle fields
- Creation of a first-class recreational facility on the length of the Commonwealth Avenue carriage way
- Elimination of obstacles to safe bicycling at bridges and underpasses

See the appendix for details about these projects.

Beyond the network

On-road bicycle accommodations are part of a comprehensive set of bike-friendly policies. Many initiatives will be necessary to make bicycling safe, convenient and comfortable. The Newton Bicycle Advisory Committee (BAC) will help the Bicycle Coordinator to:

1. Implement the Bicycle Network Plan, and ensure that at least 5% of the City's Chapter 90 budget is used for implementing this Plan.
2. Ensure that the safety of all users is considered whenever decisions are made regarding traffic signals, street and intersection design and setting speed limits.
3. Coordinate with school officials, PTOs and Safe Routes To School to guarantee safe bicycle access to and around all of Newton's schools.
4. Expand education, including mandatory public education for children and youth about bicycling safety and skills and increase motorist awareness of bicycle issues.
5. Encourage more bicycle commuting and bicycle friendly businesses.
6. Increase the supply of public bicycle racks and storage facilities, particularly near key commercial, municipal, educational, cultural and transportation facilities.
7. Recommend changes in zoning to require new or redeveloped public, commercial, institutional, and multi-family residential buildings to provide safe bicycle storage and suitable facilities to promote bicycle use.
8. Promote bicycling to public transit stops, bring Hubway to Newton and work with all transportation providers to allow bicycles on their vehicles.

The future

Improved bicycle accommodations invariably lead to greater bicycle use. Greater bicycle use increases demand. Increased demand will alter city priorities. Most important, successful implementation of a basic bicycle network will make bicyclists, pedestrians and motorists in Newton much safer than they are today. Meanwhile, the city must implement design, parking, and traffic-enforcement policies that improve bicyclist safety and comfort along all our roads.

Appendices

- Network Map (Desired Bicycling Routes)
- Table 1: Newton Bicycle Network Priorities, Schedule, Routes and Costs
- Design guidance
- Types of bicycle accommodations